

Attention:

This document may contain unmarked Official Use Only (OUO) and/or Export Controlled Information (ECI). It must be reviewed by a Derivative Classifier (DC) and brought up to current marking standards **prior to further distribution.**

Do not release this document to any foreign national until it has been reviewed by a DC for ECI. Contact the SNL Export Control Office for guidance.

The NM Technical Library distributes OUO documents in accordance with current DOE and SNL policy.

Personally Identifiable Information

000224

R718104

31 Prog.

CLIMATIC TEST OF A W31 FIRESET
TO STS STORAGE TEMPERATURE CYCLES

ENVIRONMENTAL TEST REPORT

RECEIVED

APR 16 '84

CENTRAL TECH FILE

K. L. Shipley, 7531

April 1984

Exemption 6

Exemption 6

Approved

Exemption 6

Approved

Distribution:

1513 D. W. Larson
3144 Central Technical Files
5124 mpti, (Bomb Book)
5124 J. M. Phillips
7530 , Attn: 7531 File
7531 K. L. Shipley

OFFICIAL USE ONLY

May be exempt from public release under the Freedom of Information Act (5 U.S.C. 552), exemption number and category 6. Personal Privacy. Department of Energy review required before public release.

Name/Org.: Eric Holzer / DOE SNL Date: April 18, 2018

Guidance (if applicable)

12p.

R718104

U 0 0 2 2 5

CONTENTS

	<u>Page</u>
INTRODUCTION	1
SUMMARY	1
PROCEDURE AND RESULTS	1

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1	Thermal Cycle Requirements	2
2-9	W31 Temperature Response Data	3-10

R718104

000226

Exemption 6

INTRODUCTION

The purpose of this test was to determine the temperature response of MC3775 and MC3761 components, in the W31, to the temperature cycles in STS storage requirements. The test was requested by Exemption 6, 5124, on February 13, 1984. Testing started March 26, 1984, and was completed March 30, 1984. Test engineer was K. L. Shipley, 7531; test personnel were B.-G. Strait, and Exemption 6 --both of Division 7531.

SUMMARY

This test consisted of sub Exemption 6 a W31 fireset and pressure cover to two cycles of a square wave thermal profile between the limits of 160°F and -65°F. Temperature response at seven locations within the unit were recorded. The testing was done in the north end of the EC 70 chamber.

PROCEDURE AND RESULTS

Two thermal cycles were required for this test. Details of the cycle are presented in Figure 1. Instrumentation consisted of seven thermocouples located internal to the unit. When the unit was received at Climatic, the thermocouple leads were marked with Numbers 1 through 7 with no indication as to their location. After the unit was set up in the north end of EC 70, a thermocouple was located adjacent to the unit so as to measure the free air temperature. Testing was started at noon on March 26, 1984. Temperature cycling was completed approximately 8:00 p.m. on March 30, 1984, and temperature recording was stopped on April 2, 1984. Figure 2 shows the temperature record for the free air, and Figures 3-9 are temperature records of Thermocouples 1 through 7, respectively.

000227

-2-

R718104

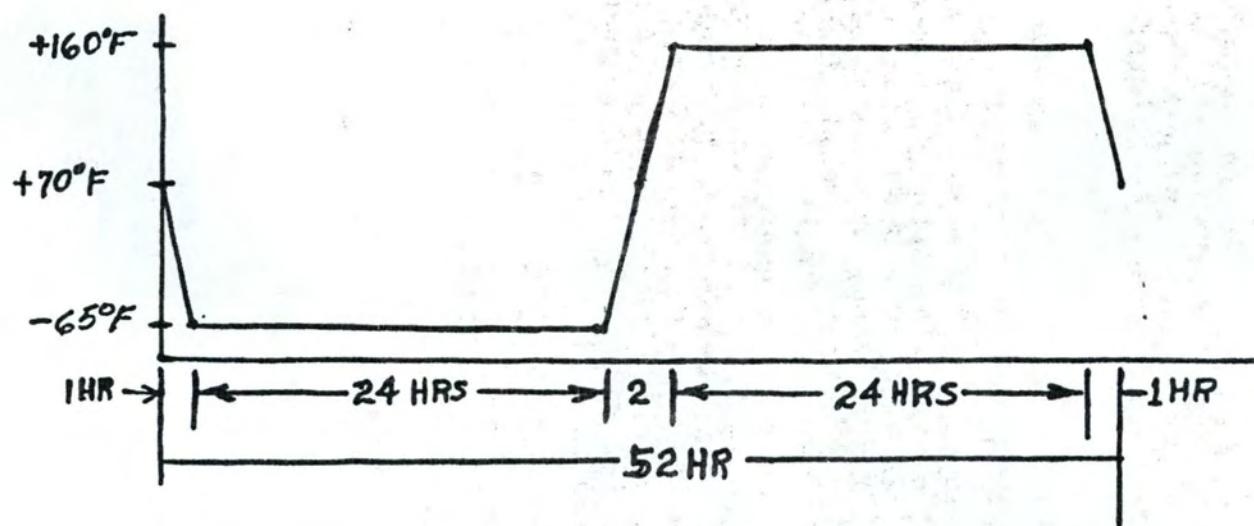
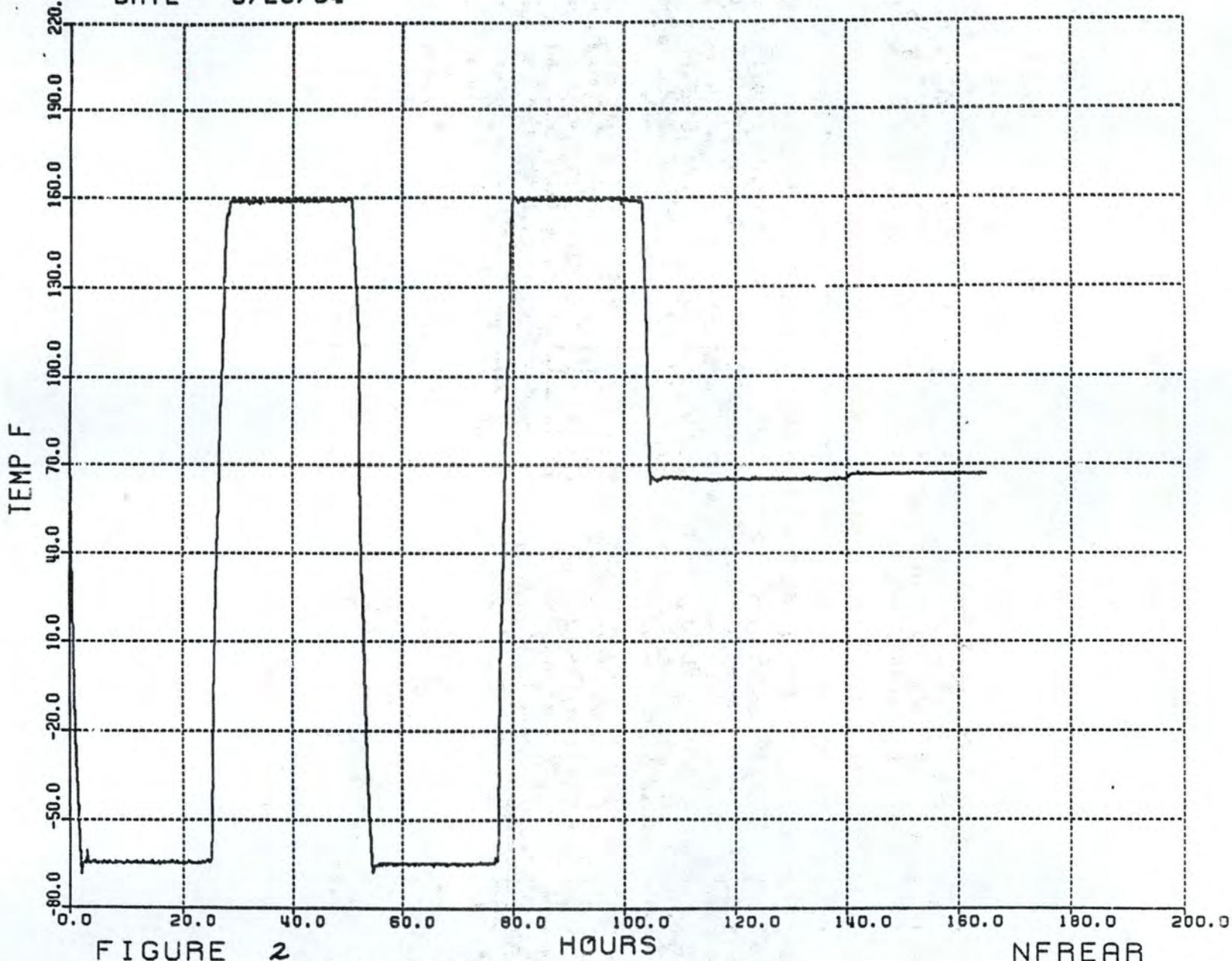


Figure 1
Thermal Cycle Requirements

DATE 9/26/84

R718104



FIGURE

2

W31 TEMP RESPONSE

NFREAR

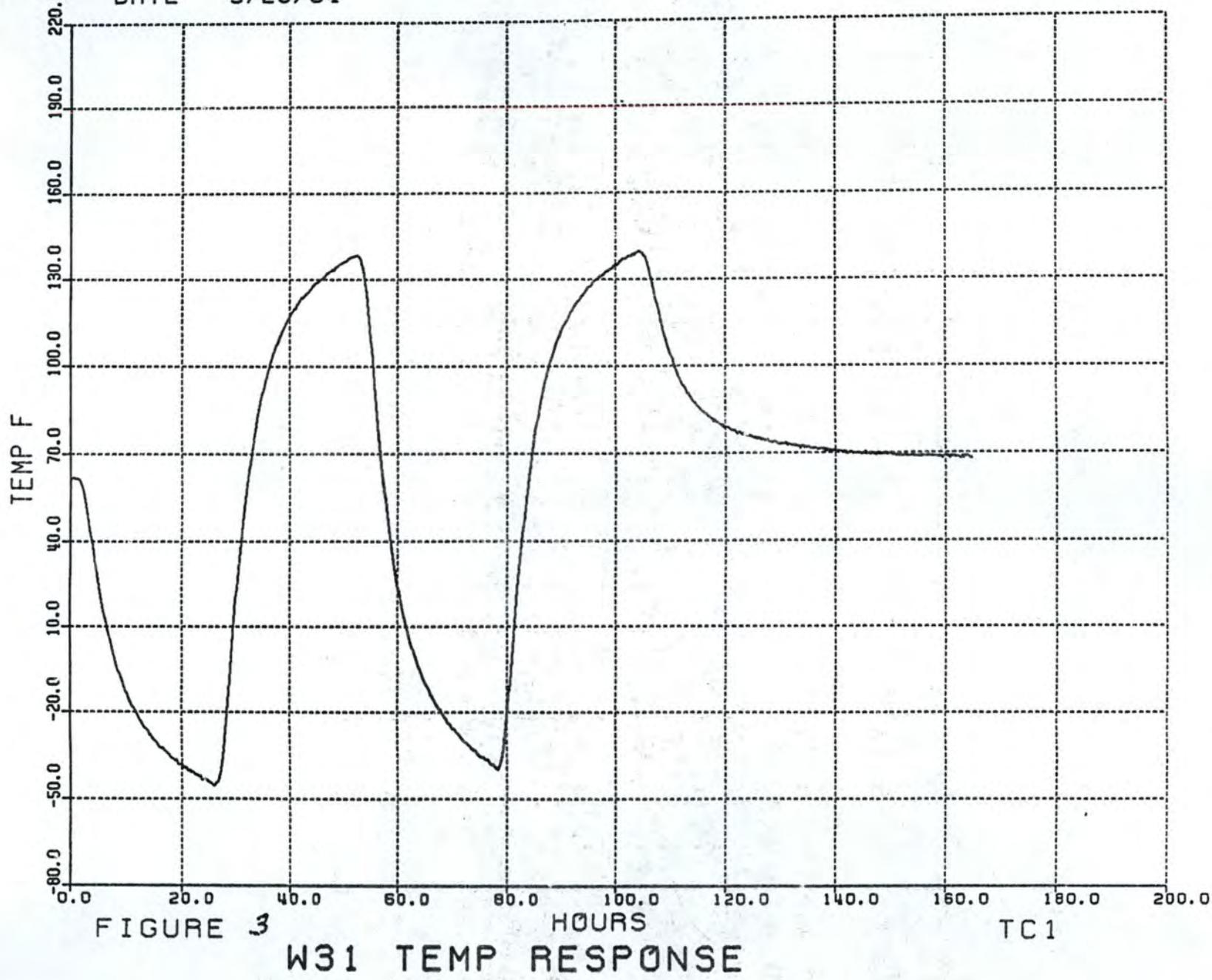
600228

DATE 3/26/84

R718104

600229

-4-



DATE 3/26/84

R718104



FIGURE

4

HOURS

W31 TEMP RESPONSE

TC2

L 0 0 2 3 U

-5-

OFFICIAL USE ONLY

DATE

3/26/84

82

R718104

000231

-6-

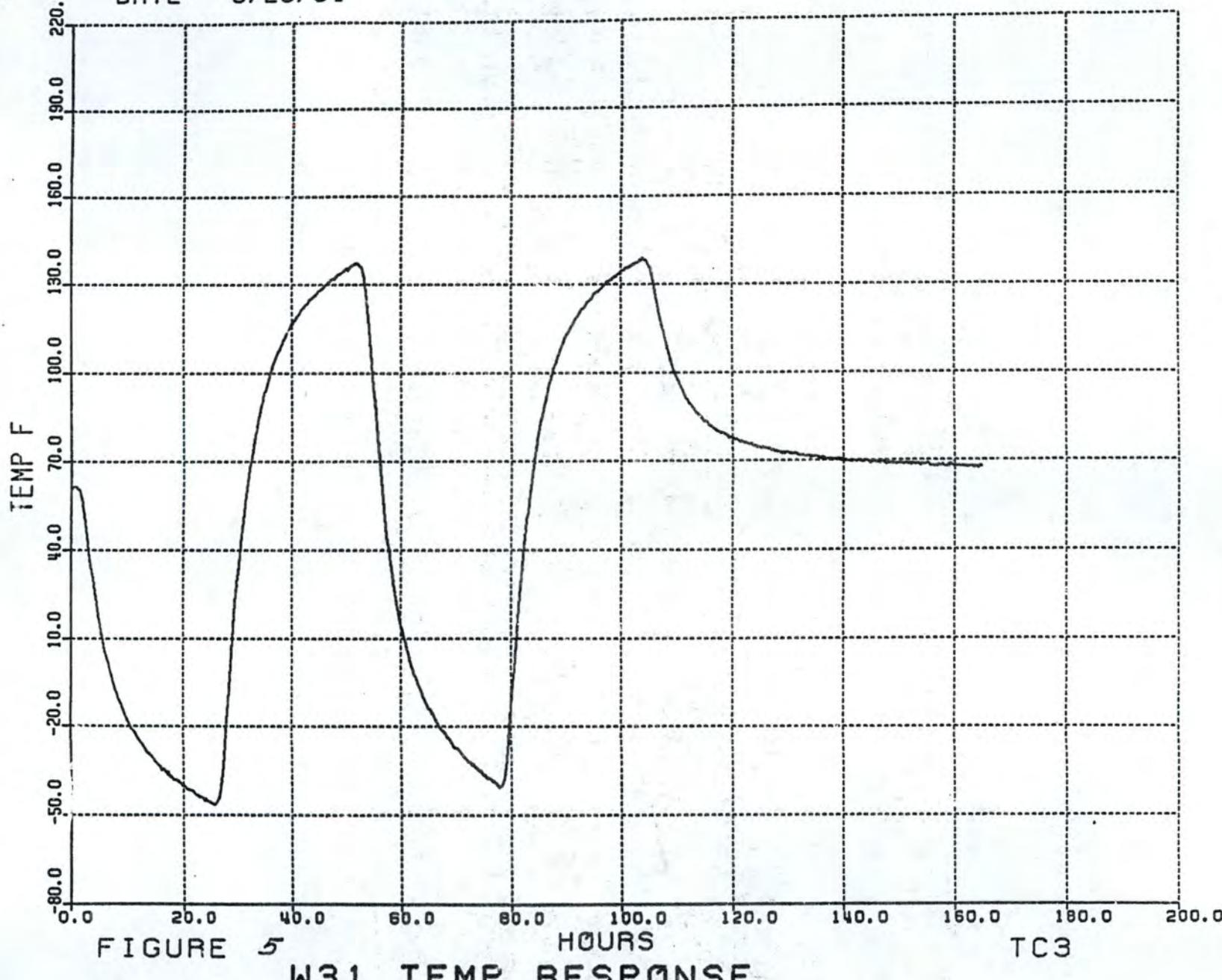


FIGURE 5

W31 TEMP RESPONSE

OFFICIAL USE ONLY

DATE 3/26/84

R718104



FIGURE 6

W31 TEMP RESPONSE

000232

OFFICIAL USE ONLY

DATE 3/26/84

R718104

000233

-8-



FIGURE 7

W31 TEMP RESPONSE

TC5

01

OFFICIAL USE ONLY

DATE 3/26/84

R718104

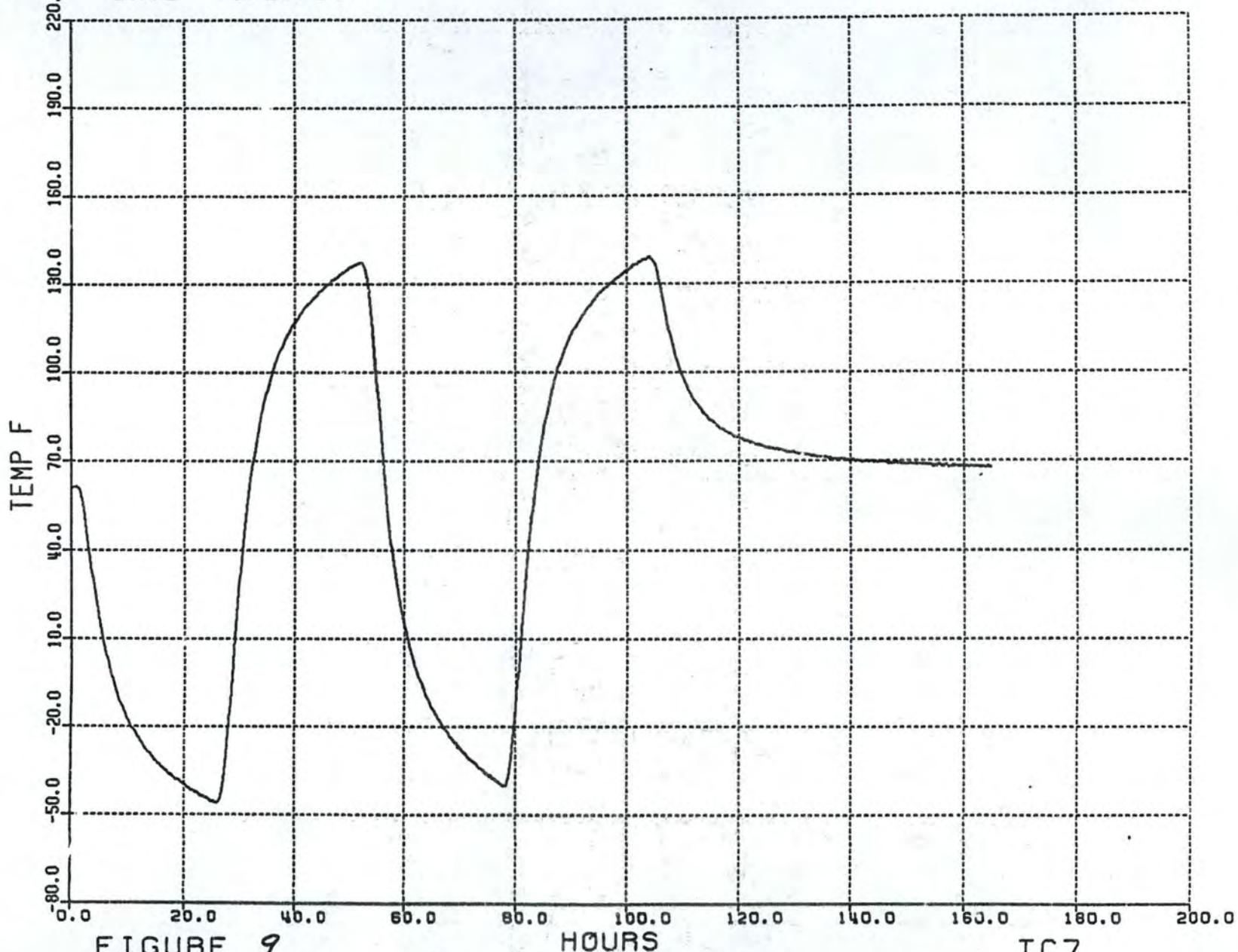


W31 TEMP RESPONSE

000234

DATE 3/26/84

R718104



000235

-10-